



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/714,147

11/14/2003

Michael D. Bradfield

D-156

2385

7590

11/30/2004

James J. Merrick
Cantor Colburn LLP
55 Griffin Road South
Bloomfield, CT 06002

EXAMINER

MULLINS, BURTON S

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/714,147

Applicant(s)

BRADFELD ET AL.

Examiner

Burton S. Mullins

Art Unit

2834



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 14 November 2003 has been considered by the examiner.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the permanent magnets (claims 7 and 14) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6 and 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiga (US 4,418,295) in view of Radomski (US 4,882,515). Shiga teaches an AC motor vehicle generator comprising: a housing 12 defining a drive end 13 and an opposite slip ring end 14 (Fig.1); a stator 15; a rotor 19 rotatable within said stator, said rotor including two flux carrying segments 19a/19b rotatably disposed on a rotor shaft 18 in said housing, each segment having P/2 claw poles (Figs.1-3), wherein P is an even number (in this case, P=12 since there are six claw poles); and a rotor assembly including two fans 121/214 (Figs.8-9) located adjacent to outbound segments defining said rotor and opposite each other disposed inside said housing and mounted concentric with said rotor shaft (Figs.8-9).

Shiga differs in that there are two flux carrying segments comprising the rotor, not "more than two" as claimed by applicant.

Radomski teaches an AC motor vehicle generator comprising: a housing 10/12 defining a drive end (pulley 28) and an opposite slip ring (48/50) end (Fig.1); a stator 14; a rotor 20 rotatable within said stator, said rotor including more than two flux carrying segments (claw pole members) 30/32/34 rotatably disposed on a rotor shaft in said housing, each segment having P/2 claw poles (fingers) 30B/32B/34D/34E (Figs.2-4), wherein P is an even number (in

Art Unit: 2834

this case $P=12$ since there are six claw poles per segment). Radomski provide more than two flux carrying segments because such a double-claw-pole-type rotor provides greater electrical output to the alternator (c.1, lines 31-33 & 45-46; c.5, lines 22-26).

It would have been obvious to modify Shiga and provide more than two flux carrying segments, i.e., a double-claw-pole rotor per Radomski since this would have been desirable to provide greater electrical output to the alternator.

Regarding claims 2-4 and 9-11, note arrows 232a/232b and 240 in Shiga denoting the claimed air flow provided by Shiga's fans 121/214.

Regarding claims 5-6 and 12-13, note windings 40/42 between Radomski's flux carrying segments which alternately magnetize the outbound claw pole members, e.g., 30, from the intermediate member 34.

5. Claims 7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiga and Radomski as applied to respective claims 1 and 8 above, and further in view of Coroller (US 3,459,980). Shiga and Radomski do not disclose permanent magnets between each segment. Coroller teaches a double-claw-pole rotor for an AC automotive generator including permanent magnet 10 sandwiched between pole segments 14 and 15/15' and permanent magnet 10' between pole segments 15/15' and 14' (Fig.2). Use of permanent magnets eliminates the need to feed current to the dynamos (field windings) and results in a simplified construction which provides a high power alternative to alternators with dynamos (c.2, lines 25-41 & 64-72).

It would have been obvious to provide permanent magnets per Coroller for the rotor field windings per Shiga and Radomski since this would have eliminated the need to feed current to the field windings and thus simplifies construction.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 571-272-2029. The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Burton S. Mullins
Primary Examiner
Art Unit 2834

bsm
24 November 2004